

L Number	Hits	Search Text	DB	Time stamp
-	919	310/162.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:38
-	444	fractional near3 (pitch or winding or coil)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:45
-	2	6133663.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:40
-	1797	(permanent adj magnet) and synchronous and rotor and flux	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:45
-	39364	(fractional or short or small) near3 (pitch or winding or coil)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:46
-	234	((permanent adj magnet) and synchronous and rotor and flux) and ((fractional or short or small) near3 (pitch or winding or coil))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:47
-	112	((permanent adj magnet) and synchronous and rotor and flux) and ((fractional or short or small) near3 (pitch or winding or coil))) and slots	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:57
-	0	stator and (coil adj width) and rotor and pole and (pitch near3 width) and (pitch near3 ratio)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 16:59
-	127	stator and (coil adj width)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:03
-	1	tau adj s adj p	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:05
-	1759	pole adj pitch	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:06
-	1	(stator and (coil adj width) ) and (pole adj pitch adj width)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:06
-	16	pole adj pitch adj width	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:20
-	350	synchronous near3 (machine or electric or generator or motor) and rotor and stator and pole and pitch and (permanent adj magnet)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:28
-	232	(synchronous near3 (machine or electric or generator or motor) and rotor and stator and pole and pitch and (permanent adj magnet)) and 310/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:41
-	200	(synchronous near3 (machine or electric or generator or motor) and rotor and stator and pole and pitch and (permanent adj magnet)) and 310/\$.ccls. and winding	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/19 17:41
-	24727	tau	USPAT; EPO; JPO; DERWENT; IBM TDB	2002/10/20 13:34

-	1408	tau and winding	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 13:35
-	194	(tau and winding) and pitch	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 13:35
-	391	tau same pitch	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 13:36
-	49	(tau same pitch) same winding	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 13:36
-	214	(outer adj rotor) and synchronous	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 14:26
-	126	((outer adj rotor) and synchronous) and (permanent adj magnet)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 14:42
-	83	((((outer adj rotor) and synchronous) and (permanent adj magnet)) and (sleeve or ring)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 14:30
-	43	(((((outer adj rotor) and synchronous) and (permanent adj magnet)) and (sleeve or ring)) and 310/\$.ccls.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/10/20 14:30
-	10	("2092058"   "2169100"   "4260926"   "4424463"   "4554491"   "4705971"   "4725750"   "4862024"   "4922165"   "5093543").PN.	USPAT	2002/10/20 14:36
-	106	((outer adj rotor) and synchronous) and (permanent adj magnet)	USPAT	2002/10/20 14:48
-	16	((outer adj rotor) and synchronous) and (permanent adj magnet)	JPO; DERWENT	2002/10/20 14:49

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TITLE: Permanent magnet synchronous linear motor

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NOVELTY - A permanent magnet synchronous linear motor comprising a field yoke (1) having a plurality of permanent magnets (2) the polarity of which is alternated and which are arranged linearly and an armature (3) facing the array of the permanent magnets (2) through a magnetic air gap, wherein the armature (3) comprises an armature core (4) having main teeth (4b) and slots (4a), an armature winding (5) wound in the slots (4a) of the armature core (4) and auxiliary teeth (6) provided at both the ends of the armature core (4). The distance  $\tau_P$  between the centers of the auxiliary teeth (6) and the pitch  $\tau_m$  of the field poles satisfy a relation  $\tau_P = (2n-1) \times \tau_m / 2$  ( $n$  is a positive integer) and the length of the auxiliary teeth (6) is in a relation of less than  $H_d$  less than  $H_t$  where  $H_d$  is the length of the auxiliary teeth (6) in the direction orthogonal to the array of permanent magnets and  $H_t$  is the length of the main teeth (4b) in the direction orthogonal to the array of permanent magnets. Thus a high performance permanent magnet synchronous linear motor having reduced cogging thrust can be provided.